AMENDMENTS TO THE SPECIFICATION

Please add the following new paragraph after line 6 of page 1:

The U.S. Government has a paid-up license in this invention and the right, in limited circumstances, to require the patent owner to license others on reasonable terms as provided for by the terms of contracts N00014-99-M-0254 and N00014-01-C-0101 awarded by the Office of Naval Research, United States Navy.

Please replace the paragraph running from page 7, line 18 to page 8, line 9 with the following amended paragraph:

The present invention encompasses a fluid processor comprising a pump for drawing a fluid from a fluid source through a fluid inlet and pressurizing the fluid, a processor assembly for processing the fluid, and a process control system. The process control system has a flow splitter for diverting a portion of the fluid from the pump in order to form a recirculating loop, a first flow restrictor for receiving the fluid diverted by fluid splitter and directing the diverted fluid to the fluid inlet, a pressure ~~control~~ relief valve disposed along the recirculating loop, and a second flow restrictor disposed downstream of the processor assembly to provide a backpressure to the fluid in the fluid processor. The flow splitter, first flow restrictor, the second flow restrictor and the pressure ~~control~~ relief valve are constructed and arranged to coact with each other so as to control the pressure and flow rate of the fluid in the fluid processor. The invention also includes a method for controlling the fluid processor. The method comprises drawing a fluid from a fluid source through a fluid inlet, pressurizing the fluid, diverting a portion of the pressurized fluid back to the fluid inlet to form a recirculating loop, controlling the flow rate and pressure of the

fluid in the recirculating loop using a first flow restrictor and a pressure relief valve, and applying a backpressure to the fluid in the fluid processor using a second flow restrictor.

Please replace the paragraph at page 31, lines 10-24 with the following amended paragraph:

A further aspect of the present invention is a sanitization assembly for the *in situ* sanitization during start-up and shutdown of the fluid processor. See, FIGS. 10A to 11B. For simplicity, the process control system is not shown in FIGS. 10A, 10B and 11B. The sanitization assembly comprises an isolation valve [[168]] 184, a drain valve 190 (see, FIG. 11A and B), and a start-up loop (see, FIGS. 10A and 10B) comprised of a start-up loop flow restrictor 160 and a four-way valve 162 having a startup position and a normal position. Referring to FIG. 10A and 10B, the isolation valve 168 is located downstream of a fluid source 166 and upstream of the pump 170 and allows for isolating the system from the fluid source 166. The drain valve 190 (see, FIG. 11A and 11B) is located upstream of the processor assembly 181 and at the lowest point of the fluid processor. The drain valve allows for draining fluid from the system. The startup flow restrictor 160 (see, FIGS. 10A and 10B) controls the flow rate through the startup loop. The startup flow restrictor 160 is located immediately downstream of the isolation valve 168 along a first fluid path that is separate from but running parallel to a second fluid path going from the isolation valve 168 to the pump 170. The four way valve 162 is disposed downstream of the flow restrictor 160 and the pump 170.

Please replace the paragraph at page 32, lines 9-21 with the following amended paragraph:

For sanitization during startup, a fluid inlet 164 is connected to the fluid source 166 which has a minimum line pressure of not less than about 10 psia and not greater than about 800 psia (e.g. a tap water line). The four-way valve 162 is then switched to its start-up position and the isolation valve 168 is opened. Instead of activating the pump 170, the fluid is driven by line pressure to enter the reactor 172 at a small flow rate that is regulated by the start-up loop flow restrictor 160. A heater 176 is switched on and, as the reactor 172 heats up, steam is generated for sterilizing the system. This steam goes through the ~~inner~~ tube side of the heat exchanger 174 and flows downstream of the processor assembly to exits at a fluid outlet 178. After steam has gone through the fluid outlet 178 for a period of time sufficient to sterilize the system, the four-way valve 162 is switched to its normal position (see, FIG. 10B). The pump 170 is then turned on and the fluid processor is allowed to stabilize at the desired temperature and pressure for period of time before product is collected from the fluid outlet 178.

Please replace the paragraph at page 35, line 7-14 with the following amended paragraph:

Pressure transducers 356, 358, and 360 and temperature sensors 402, 404, 406 and 408 located at various points of the fluid processor respectively measure the pressure and temperature of the fluid and send their readings to the PLC 346 via the circuit 352. Check valves 388 and 390 prevent any fluid from flowing back upstream. Further, second and third pressure relief valves 392 and 394 provide added safety by opening up when the pressure of the fluid exceeds a certain level. When pressure relief valves 391, 392, and 394 open, the fluid from these

valves flows to a reject outlet via a reject line 600 for disposal. Any fluid from a drain valve 400 also flows to the reject outlet.

Please replace the paragraph at page 35, line 15-22 with the following amended paragraph:

From the reactor 418, the processed fluid (i.e. product fluid) re-enters the heat exchanger 416 via a tube side inlet 428 and is cooled by the fluid counter-currently flowing in the annular side. The product fluid exits the heat exchanger 416 at a tube side outlet 430 and passes through a third filter [[372]] 374 and a second flow restrictor 398 via a product line 602. A portion of the product fluid from the second flow restrictor is diverted via a sampling line 604 to pass through an endotoxin sensor 410' so that the endotoxin level of product fluid can be measured and the endotoxin level readings are sent to the PLC 348 via the signal conditioner 410 and circuit 352. The product fluid then passes through a three-way valve 368 and is collected at a product outlet.

Please replace the paragraph running from page 35, line 23 to page 36, line 11 with the following amended paragraph:

If it is desired to measure the flow rate of the processed fluid coming from the reactor or to measure its conductivity, the flow of the product fluid is diverted from the product outlet so as to flow along a divert line. In the embodiment [[show]] shown in FIG. 13, the three-way valve solenoid 366 activates the three-way valve 368 to divert the product fluid from the product outlet to the reject outlet through a divert line 606 flowing from the three-way valve 368 to the reject outlet. It is to be understood, however, that diverting the product fluid from the product outlet to the divert line by means or devices other than using a three-way valve is within the spirit of the present invention. As the product fluid flows along

the divert path, the conductivity meter 412 and flow meter 414 respectively measure flow rate and conductivity of the product fluid as the product fluid passes through the conductivity ~~sensor~~ cell 412' and a flow sensor 414' which are disposed along the divert line. The readings of the conductivity meter 412 and flow meter 414 are then sent through the circuit 352 to the PLC 346. Alternatively, the endotoxin sensor 410' may also be disposed along the divert line.